ography, and on to the bathyscaphe and autonomous scaphanders. Although the treatment is concise and condensed, it is inevitable that in such a broad sweep the author may have occasionally overlooked matters that are of less interest to him than they are to some of his readers; nevertheless, Peres has done rather well in preparing an introduction to still unnavigated seas.

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Pharmacology

In **Screening Methods in Pharmacology** (Academic Press, New York, 1965. 332 pp., $12), Robert A. Turner has performed a commendable service by assembling, under one cover, a wide variety of techniques for the screening of potentially useful pharmacological agents. The book is far from being a mere list of procedures, because Turner included not only detailed descriptions of the methods employed in testing for specific types of activity, but also chapters devoted to the basic principles of screening programs. In addition, there is an appendix containing helpful statistical formulas for evaluating the significance of screening data. There is an adequate, and frequently cited, bibliography of more than 250 papers.

Unfortunately, the care with which the techniques have been assembled and described is not matched by the quality of the introductory chapter on autonomic pharmacology, or by the quality of the discussions accompanying the methodology, the general level of which is all too often below what might reasonably be expected by the research workers and educators to whom the book is directed. Little or no attempt is made to distinguish the merits or particular use of the alternative methods described, a failing that can become important—for example, when the specific use of pentylenetetrazole in screening for agents active against petit mal, as contrasted with grand mal epilepsy, is not mentioned.

More disturbing is the presence of numerous factual errors and confusing explanations. Thus the author ascribes to tryptamine the ability to displace catecholamines which is in fact possessed by tyramine. The terminal sympathetic transmitter is confusingly described as "epinephrine, norepinephrine, or a mixture of these." In the chapter on sympathomimetic agents, the author endeavors to explain the biphasic response of blood pressure to administration of epinephrine in terms of "excitatory and inhibitory properties" of the amine itself and the lower level needed for vasodepression, without recourse to the concept of alpha and beta receptors which is essential if the effect is to be understood. A description of the action of tyramine includes a statement assigning to the catecholamines the role of "catalysts" for some direct action of this compound which earlier is classified as acting indirectly.

Although the theoretical background detracts from its value, this book should prove useful, not only to those presently running, or about to initiate a screening program, but also to those engaged in the teaching of pharmacology.

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General Chemistry Textbooks

The two general chemistry textbooks reviewed here are first-rate but very different books. They are **Concepts of General Chemistry** (Davis, Philadelphia, Pa., 1965. 588 pp., $8.50) by C. R. McLellan, Marion C. Day, Jr., and Roy W. Clark and **Principles of Chemistry** (Prentice-Hall, Englewood Cliffs, N.J., 1966. 729 pp., $8.95) by Lewis G. Bassett, Stanley C. Bunce, Alison E. Carter, Herbert M. Clark, and Henry B. Hollinger.

Concepts of General Chemistry is a fine product of the authors' attempt to overcome a deficiency in general chemistry which they have noted in modern-day students—namely that many students have been learning fundamental principles but paying less and less attention to the chemical reactions that these principles seek to explain, with the result that some students "are not certain of the product of the reaction between NaOH and H_2SO_4." As a result, these authors have attempted to write a book that strikes a balance between theoretical and descriptive general chemistry. They have taken the term "general chemistry" fairly seriously and have included chapters on organic chemistry and industrial chemistry, although biochemistry is omitted. Furthermore, they have included material on topics that have become a part of the freshman curriculum, including the chemistry of coordination compounds and of the rare gas elements.

It should be emphasized that the book is definitely designed for students who have not had previous training in calculus, and the discussions of chemical kinetics and chemical equilibrium do not include mention of the calculus. The order of the presentation of the subjects is quite logical in my judgment; nuclear structure is treated near the beginning of the book, so that the influence of nuclear structure on chemical bonding can be discussed quite freely thereafter.

The book is written in a lucid style; answers are included to selected problems, of which there are a generous number, and adequate information in the form of tables, drawings, excellent photographs, and the like is included. The book is published on especially good paper stock, but the binding leaves something to be desired. This book should be seriously considered for use as the textbook in a modern general chemistry course that does not include calculus.

The *Principles of Chemistry* is much different from the book by McLellan, Day, and Clark. Of its nine chapters, one is devoted to modern inorganic chemistry and another to modern physical-organic chemistry. The remaining chapters could well be classified as "physical chemistry." In my judgment this book should not be used in a class of freshmen, unless most of them have something more than a nodding acquaintance with calculus.

The book is also well written, but is definitely for use in a course for which the students have been carefully selected with respect to their previous preparation and their ability in mathematics and science.

There is no question in my mind that the freshman chemistry curriculum is tending to be oriented more and more toward physical chemistry. This is an excellent way to introduce chemistry at the college level, provided that students have had first-rate courses in chemistry, physics, and mathematics in secondary school. For such students, this well-written book can be highly recommended. The chapters on chemical bonding, equilibrium, classical thermodynamics, and kinetics are long, but mature freshmen should be able